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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,876	07/08/2005	Sang-Youl Kim	1834-2	7961
<div>7590 11/15/2007</div> <div>Thomas M. Galgano, Esq. GALGANO & ASSOCIATES, PLLC Suite 204 20 West Park Avenue Long Beach, NY 11561</div>			<div>EXAMINER</div> <div>LYONS, MICHAEL A</div>	
			<div>ART UNIT</div> <div>2877</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE</div> <div>11/15/2007</div>	<div>DELIVERY MODE</div> <div>PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,876

Applicant(s)

KIM ET AL.

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 1, 2007 has been entered.

Claim Objections

Claim 8 is objected to because of the following informalities: in line 12 of the claim, the word "oscillations" is misspelled "oscillation". Appropriate correction is required.

Claim 10 is objected to because of the following informalities: in line 10 of the claim, the word "oscillations" is misspelled "oscillation". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

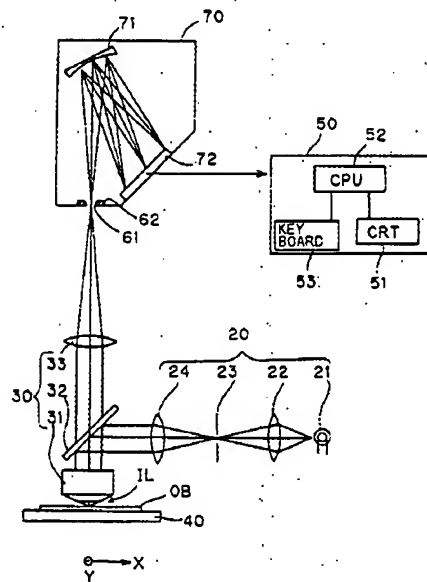
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horie (5,440,141).



Regarding claims 8 and 10, Horie (Fig. 1) discloses a film thickness measuring apparatus and corresponding method comprising a light source 21 for projecting a light on the surface of a thin film sample OB; a spectrograph 70 for splitting the light reflected from the sample according to each wavelength; an optical measuring device array 72 for measuring intensities of each wavelength of the split reflected light; and a computation unit 50 comprising a CPU 52 for computing a thickness of the thin film based on the number of oscillations obtained by a fast Fourier transformation in which the data obtained adapts a refraction index dispersion (see, for instance, Figure 2, Figure 6, Col. 2, lines 9-65, and Col. 10, line 63 – Col. 11, line 27).

Horie, however, fails to explicitly disclose a conversion unit for converting a signal of the measured intensities of each wavelength of the split reflected light into a digital signal data.

Horie does disclose that the optical measuring device array 72 is a CCD. CCDs, in addition to detecting light, convert the light into digital signals, without the need of an additional element such as an analog-to-digital converter.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a CCD as both the optical measuring device array and the conversion unit, the motivation being that using a single element is more cost efficient, as it reduces the total number of essential elements in the device. Further, it would have been obvious to omit the conversion unit, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

As for claims 9 and 11, Horie discloses the claimed invention as set forth above regarding claims 8 and 10, but fails to disclose the thickness computation equation. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the thickness equation of the instant application to calculate thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

Applicant's arguments with respect to claims 8-11 have been considered but are moot in view of the new ground(s) of rejection.

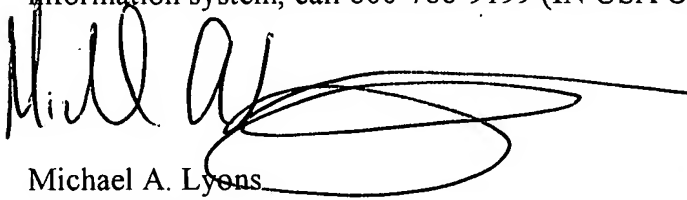
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420.

The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Michael A. Lyons', with a large, stylized flourish extending to the right.

Michael A. Lyons
Patent Examiner
November 11, 2007